COST-BENEFIT ANALYSIS OF AN INTERVENTION TO ACCELERATE THE END OF THE DOUBLE TRACK SYSTEM AT THE SHS LEVEL: PROVISION OF GOVERNMENT SUBSIDIES TO CHILDREN TO ATTEND PRIVATE SCHOOLS

FESTUS EBO TURKSON
Department of Economics, University of Ghana

PRISCILLA TWUMASI BAFFOUR
Department of Economics, University of Ghana

NATIONAL DEVELOPMENT PLANNING COMMISSION

COPENHAGEN CONSENSUS CENTER

GHANA PRIORITIES

COPENHAGEN CONSENSUS CENTER

info@copenhagenconsensus.com
www.copenhagenconsensus.com

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Cost-benefit analysis of an intervention to accelerate the end of the Double Track system at the SHS Level: Provision of Government Subsidies to Children to attend private schools

Ghana Priorities

Festus Ebo Turkson
Department of Economics, University of Ghana

Priscilla Twumasi Baffour
Department of Economics, University of Ghana

Brad Wong
Copenhagen Consensus

Academic Abstract

This paper presents a cost-benefit analysis of an intervention designed to hasten the elimination of the double-track system of education that has accompanied the free senior high school (SHS) policy in Ghana, namely, subsidies to children to attend private SHS. The results indicate that given a yearly enrolment deficit of 140,000, providing subsidies for 30,000 pupils (a realistic estimate, given the capacity of the private education sector) to attend private SHS would require a transfer from the public to private sector (via parents) of GHc 58.5m per year. With administration costs, this would equal GHc 491m over 15 years at an 8% discount rate. However the intervention would ameliorate the need to build 50 public schools, providing a significant infrastructure cost saving of GHc 250m. Additionally, it would lead to avoided operations cost assumed to be equal to the value of the subsidy. Over a fifteen year time period the benefit-to-cost ratio is 1.5. The main finding is that providing subsidies to pupils to attend private SHS along with building some new public schools appears to be a better investment than the alternative of building new schools alone. However it is a less effective intervention compared to other potential investments in education and elsewhere within the *Ghana Priorities* series.

Key Words: Cost-Benefit Analysis, Secondary School Learning, Government Subsidy, Private SHS, Expansion Educational Infrastructure, Double-Track Educational System

Policy Abstract

Key Takeaways

- Government offers a spot to pupils who wanted to be placed in public schools, but instead places them in private schools and offers subsidies to them to attend private school. The subsidies cover all variable costs of schooling a child in private school - teacher salary, maintenance, operations, etc. For every cedi given out as subsidy, 1.5 cedis is returned in savings from avoided infrastructure and school operations costs.
- This would save GHc 250m in infrastructure that could instead be used for other purposes.

The Problem

Although the free SHS policy has greatly increased enrolment, it has led to a mismatch in the demand for secondary education and the available educational infrastructure. The double-track system was introduced to circumvent this hurdle. However, the double-track system has its own challenges and could worsen the academic performance of students and deplete the existing educational infrastructure (Takyi et al., 2019; Graves et al., 2018). The Government of Ghana is committed to ending the double track system and has raised billions of cedis in capital to pay for the infrastructure.

Intervention: Provision of government subsidies to 30,000 pupils per year to attend private SHS

Overview

This intervention involves paying the cost of non-boarding private secondary education in the form of subsidies to pupils for them to attend private SHS. The target is set at 30,000 pupils per year.

Implementation considerations

This intervention would require negotiating with private schools. Some communication to the public would also be required to explain the new approach. To keep costs down, the intervention would only subsidize children who went through the public placement system, but could not secure a spot (as opposed to parents who purposefully chose private schools).

Cost and Benefits

Costs

The total cost of implementation is GHc491m over 15 years (at an 8% discount rate), mostly for the cost of subsidies. There is small amount of negotiation and administration cost.

Benefits

The intervention would ameliorate the need to build approximately 50 public schools saving the government GHc 250m. It would also avoid operating costs of GHc 58.5m per year, or 484m over the time period. The total benefits are GHc 734m and the BCR is 1.5.

1. Introduction

Formal education is a proven key contributor to development through diverse routes such as equipping individuals with the requisite skills and knowledge. These skills and knowledge help individuals to either establish a business, create job avenues which may be beneficial to the whole society, seek employment and save to secure the future to deal with contingencies (Krueger & Malečková, 2003). This ultimately results in poverty reduction, livelihood improvement and intergenerational mobility. Thus, studies have linked the inability to attain high levels of formal education to the incidence and perpetuation of poverty (Soares, Fernandes, Nóbrega, & Nicolella, 2015).

Notwithstanding the pros of attaining high school level of education, some challenges, in the case of Ghana, include high poverty levels, limited space for increased admission and limited infrastructure in general for senior high school education (Palmer, 2005; Takyi et al., 2019). Space constraints resulted in about 15% (62,400 out of 424,224) of students not being able to enrol in the senior high school, although they passed their Basic Education Certificate Examination (BECE) in 2017; In 2018, an estimated seating deficit of 181,993 seats was to be resolved in order to absorb the 472,703 candidates who passed the 2018 BECE (Takyi et al., 2019). Also, financial constraint was a huge challenge to enrolment in Senior High Schools. The government of Ghana introduced the Free Senior High School (SHS) policy in 2017 to tackle the challenge posed by financial constraints, as it doubled up as an attempt to fulfil one key manifesto promise. As expected the Free SHS resulted in increased enrolment and worsened the challenge of seat or space inadequacy. In response, the Multi-track Year-Round Education (MT-YRE) was introduced to solve the space constraints.

The MT-YRE splits the student body into separate tracks with a defined break-period rotation (to serve an increased number of students while making use of the same facility) and in which the school days are systematically distributed across the calendar year (Graves et al., 2018). From the literature, MT-YRE has been identified as a sure way of boosting school enrolment without expanding infrastructure. It some cases in can also accommodate smaller class sizes, increasing teacher-student contact hours with the potential to improve academic performance (Kyriazopoulou & Weber, 2009). Since educational outcomes are the results of inputs and process of education, it implies that the effects of the MT-YRE, be it positive or negative, on

the inputs and processes (indicators) of education will result in a corresponding effect on its outcomes.

Following its implementation in countries such as Australia, the United States of America, Japan and Costa Rica, some positive effects of the MT-YRE have been reported in the literature. For instance, Graves *et al.* (2013) and McMullen and Rouse (2012) report that in California, enrolment rates were 20-33% higher in double-track schools as compared to single-track schools. More so, and per-pupil cost of education was estimated to be US$25.00 lower among the MT-YRE schools. Cooper *et al.* (2003) argue that double track education system results in increased performance for a student with learning disadvantages because it is designed to offer frequent breaks. Notwithstanding the aforementioned benefits, a number of authors find a negative effect on educational outcomes (especially the academic performance of students) (see McMillen, 2001; Graves, 2010, 2011; Wu and Stone, 2010). They argued that the MT-YRE worsens academic performance, increases maintenance and utility costs, increases administrative cost, and reduces student vacations/leisure and extracurricular activities.

On Ghana, Takyi et al. (2019) qualitatively analyzed the effect of MT-YRE on senior high school education in Ghana. Aside from evidence of increased enrolment, the study highlighted the cost-saving gains from the MT-YRE, indicating that if expenditure expansion was to be embarked on as an antidote to the overcrowding due to free SHS, it would cost almost GHS 1.4bn[1]. Thus, at the time of the study the implementation of the MT-YRE was expected to save the Government of Ghana over GHS 1bn.

However, there are other reported economic and social costs associated with the MT-YRE policy. For instance, in arriving at such an estimate of the benefit of MT-YRE, increments in the maintenance budget due to wear and tear and utility costs were not considered. More so, additional teaching and non-teaching staff would be needed to match the needs of the two tracks. The government envisaged to, therefore, employ 8000 teachers from the Government of Ghana's Nation Builders Corps (NABCO) to supplement the existing teacher population.

However, this could lead to poor academic performance as the teachers would have lower experience and educational levels as reported by Graves, (2010); Graves et al., (2013); Graves et al., (2018) in the case of MT-YRE in California. To minimize poor academic performance,

[1] See Ministry of education,(2018) for details of this estimate.

these teachers would need additional resources (i.e. time and funds). There will also be a high turnover of teachers as NABCO personnel are meagerly paid and also encouraged to be looking for better job opportunities as they work. Moreover, there is a plan to cater for the downturn in academic performance by establishing remedial schools which will run during the weekends, which come with its own set of costs.

Other costs include potential social welfare costs. As students may not find vacation jobs, idleness during vacation periods may lead to some students engaging in social vices that may threaten their academic career as well as their communities and the nation at large. These costs could exceed the savings made by implementing the MT-YRE policy. As echoed by other stakeholders, the study concluded that poor academic performance among students as well as other challenges associated with the MT-YRE would defeat the government's Free SHS policy (Takyi et al., 2019).

It is perhaps due to these unmeasured economic and social costs, or for other reasons, that the government of Ghana committed to building more schools to end the double track system, forgoing the potential cost savings highlighted previously (Ministry of Education, 2020; Annang, 2020 and Adams, 2019). The government has raised billions of cedis to fund the required infrastructure investment (Adams, 2019; Asgari, 2019).

However, others have suggested an alternative solution that has the potential to generate cost savings while also helping to end the double track system: the provision of subsidies to children to attend private schools with excess capacity (IMANI, 2018; Ghana Business News, 2018; Essuman, 2018). The prominence of this position to the debate is further evidenced by a specific 'frequently-asked question' on the availability of the private sector to absorb some school enrolmenents posted on the government's Free SHS website (Ministry of Education, 2020).[2]

The purpose of this paper is to inform this debate by estimating the costs and benefits of such an intervention. We envisage a solution that does not offer subsidies to all students who attend private schools, just for those who enrol through the public placement system.

[2] The response to this question indicates that it is against the constitution to support private entities with public funds. We make no commentary on the legal soundness of this argument. We only note that the intervention suggested in this paper is a transfer from the government to parents of children, and not directly to private entities.

The results indicate that providing public subsidy to placement in private schools has a BCR of 1.5. Providing subsidies to 30,000 pupils per year who qualify for senior high school, but could not otherwise be placed in the public system would require an annual transfer from the public to parents of about 58.5 million cedis. This would alleviate the need to build 50 schools, providing a one off cost saving for the government of 250 million cedis and ongoing operations costs of 58.5 million cedis. The basic logic of our finding is that, given a commitment to providing schooling to all children who wish to enroll, the intervention transfers the operational costs of their schooling from the public to private sector, while avoiding the fixed costs of school infrastructure.

Here we emphasise that the relevant counterfactual upon which the intervention is measured against is the gradual elimination of the double track system through the building of new schools. We adopt this counterfactual since it appears to be official government policy. This means that we cannot include the benefit of additional years of schooling achieved - as is typical with cost-benefit analyses that compare school subsidies against a 'do-nothing' scenario – since target beneficiaries are still envisaged to attend senior high school in both counterfactual and intervention scenarios.

There is one other important complexity which bears mentioning but is not included in the main analysis described above: education quality. The intervention has the potential to end double track system early for around 20% of excess students. This may boost learning levels if one believes education quality is higher if the children are placed in non-double track private schools instead of being in public double-track. One potential counter-argument to this is that it would reduce learning for *existing* children in private schools if their classroom size expands due to the influx of children. However, carefully conducted studies in Pakistan and Uganda suggest that public support of private schools may *improve* learning for students as private schools are able to use the funds to support more teachers and classroom inputs (Barrera-Osorio et al. 2017; Barrera-Osorio et al. 2016; Barrera-Osorio and Raju (2015). Note that these effects are not unambiguously applicable to the current intervention. For example in the case of Uganda, the authors indicate that the result may be due to household sorting, rather than a true improvement in schooling (Barrera-Osorio et al. 2016). Additionally, in these studies the subsidies were provided for all students enrolled in school, whereas in our intervention set up it is only for marginal students who use the public placement system.

As a result we decide to test this as a sensitivity analysis instead of including it in the main findings. The results of this sensitivity analysis suggest the potential learning benefits could be substantial, in the order of GHc 900m. This would increase the BCR to 3.4.

Our results are of crucial importance to decision-makers; the main finding is that providing subsidies to pupils to attend private SHS along with building some new public schools appears to be a better investment than the alternative of building new schools alone. The savings are substantial and real, equal to GHc 250m in avoided infrastructure costs. However, compared to other potential investments in education and elsewhere, this intervention has a relatively low BCR. For example, another paper in the *Ghana Priorities* series written by us shows that school feeding and teaching at the right level at basic school have higher BCRs, between 5 and 8 (Wong, Turkson and Twumasi-Baffour, 2020), and the evidence of impact is significantly stronger.

2. Subsidy to private SHS

2.1 Description of intervention

Government subsidy to private school children, at the basic and secondary/high school level, has been widely relied on in many countries. Mainly, it is done to provide more room for the increasing demand for school facilities without spending on building new school facilities. Usually, it serves as a prudent short-term measure to meet school demands without compromising the quality of education. Ghana has no track record of public subsidy to private schools. However, this has become a viable, and perhaps, required option to relieve the pressures or overcrowding on public school facilities due to the upsurge of enrolment due to the free senior high school and double-track system policies. Also, due to the recent outcry about reduced private SHS enrolment in the country and the capital intensive nature of school expansion, it may be better to pay the subsidy for filling in the vacant seats in private schools that have the capacity to offer quality secondary education.

In this study, we propose that the government offers a spot to children who want to be placed in public schools but cannot be placed therein, by rather placing them in private schools and giving them per-student subsidy (to cater for tuition fees/day student fees). That is, the subsidy is only available for children who go through the public placement process. These private schools must be of a level of quality that is similar to that observed in public schools. It must be noted that the huge preference for public SHS is mainly because it is free. The proposed

subsidy programme would require no financial commitment from the pupils and would, thus, increase the preference for the selected private schools. Another caveat to ensure maximum efficiency is the key role of supervision to ensure that the quality of private school teachers, as well as the teaching activities, are not compromised. Another factor that calls for effective supervision is the profit motive that may drive the actions taken in private schools as it could potentially compromise efficiency. The private schools will have to admit students to their capacity in ways that ensure effective teaching and learning. For example, applying a cap on pupil-teacher ratio would be one observable proxy for ensuring acceptable teaching standards.

3.2 Evidence on the effects of subsidy to private SHS

Provision of subsidy to private SHS has been widely applied in advanced countries as well as low and middle-income countries to meet various objectives. For instance, Chile and New Zealand have implemented educational voucher programs to stimulate competition among schools (Hsieh & Urquiola, 2003). The government of the Netherlands pays the costs of educating children at schools run by religious organizations (James, 1986). Colombia introduced policies of subsidizing private schools that enrol low-income students as a way of increasing supply to meet its commitment to universal access to primary schooling (James, 1993; Uribe et al., 2006). In the United States of America, Muennig and Fahs (2001) explored private school subsidies as a cost-effective instrument for health improvement.

There have been a series of papers on the impacts of private school subsidies or scholarships in developing countries (including Ghana a decade ago) which have shown positive impacts on school enrolment, the number of teachers, other inputs for private schools, educational outcomes while reducing costs (Barrera-Osorio et al. 2016, 2017; Barrera-Osorio and Raju, 2015; Duflo et al 2017).

In their study in Punjab, Pakistan, Barrera-Osorio and Raju (2015) evaluated a private school subsidy intervention where the government contracted the large and growing low-cost private education system in the province to deliver quality schooling to poor households. They employed a sharp regression discontinuity (RD) to examine the causal effect of the programme. This was informed by the nature of the treatment assignment process, where test pass rates relative to a cut-off determined if schools would be either treated or untreated.

They found robust evidence data that the intervention significantly reduced student classroom ratios, increased student enrolment, the number of teachers, and classrooms. Relative to the

baseline values for untreated sample, conservative estimates at the cut-offs indicate that in 17 months, marginal passers increased by over 59%, the number of teachers and classrooms increased by over 46% and 47% respectively, while student-classroom ratios were reduced by about 14%, on average. The programme was adjudged one of the cheapest enrolment-boosting interventions in developing countries while noting how crucially private school accountability (to the government) contributes to the success of the intervention.

In Sindh, a province in Pakistan, Barrera-Osorio *et al.* (2017) examined the effect of a public subsidy intervention on school enrolment and performance. Named Promoting Private Schooling in Rural Sindh (PPRS) program, the provincial government-funded intervention entailed the provision of a per-student cash subsidy, free textbooks, free school leadership, free teacher training and other teaching and learning materials such as stationery and bookbags to students in eight (8) poor districts. Within-group variation in the intervention was done by giving a higher cash subsidy to girls to bring their enrolment levels and performance to par levels. The results showed a 30 percentage points increase in enrolment and a 0.63 standard deviations increase in total test scores relative to non-treated villages, and 0.16 standard deviations relative to students in government schools. Other non-pecuniary benefits of the program that were identified with treated households include the increased desire for their children to attain higher education levels and changes in job aspirations from a popular previously-held one (security personnel) to professions such as engineers and doctors.

Uganda, the first Sub-Saharan African nation to introduce a Universal Secondary Education (USE) program, experienced almost 25% increase in enrolment. As inputs were not proportionally increased, there was a lot of strain on resources which led to poor learning environments. The government responded by introducing both a double-track schooling system and also contracting private schools to provide USE. Selected private schools justified their selection by showing proof of adequate infrastructure, a board of governors made up of government and parents and sufficient teaching staff. The amount of subsidy was 47,000 UGX per term per student eligible for all non-boarding fees, as other resources such as teaching materials and textbooks were supplied. Barrera-Osorio *et al.* (2016) estimated that there was about 35% improvement in enrolment, which was evenly distributed among males and females. Also, the program lead to a 0.16 sd. improvement in mathematics relative to children in private schools which did not participate in the program. The authors indicate that this might be due to household selection rather than features of the treated private schools per se. If this is the case,

then the benefits are not welfare enhancing from a societal perspective, since the effect is based on the mere redistribution of students across schools.

The work by Duflo et al., (2017) evaluated 682 scholarships that were awarded (by lottery) to 2,064 students who had gained admission to a secondary school but could not enrol due to some challenges, mainly financial. Analyses were done after following up for about 8 years. The results show that scholarship winners had 1.26 more years of secondary education and were 55% (26 percentage points) more likely to graduate from secondary school. In terms of performance, they scored an about 0.15 standard deviations higher on a reading and math test. In terms of attitude towards health, scholarship winners adopted more preventative health behaviour and were 30% (3 percentage points) more likely to enrol in tertiary education. They also had a 10% higher likelihood (5.5 percentage points) of having positive earnings. While the results of Duflo et al. (2017) are clearly more contextually relevant, the paper is less useful for our cost-benefit analysis since it measures outcomes against non-scholarship winners, most of which did not end up going to school. Recall in this study, the relevant counterfactual is that children are indeed in senior high school, but in the double track public system.

While the preceding review indicates potential benefits from private subsidies, it is unclear if these lead to true welfare gains Barrera-Osorio *et al.* (2016) or would be applicable to the Ghanaian case where for example, the relevant counterfactual is not placement in government schools but no placement in schooling at all (Barrera-Osorio et al. 2017; Duflo et al. 2017). Additionally, these effects were based on subsidies provided for all students enrolled, whereas the intervention set up in this paper only provides subsidies for marginal students. As such we conduct a cost-benefit analysis focusing on less speculative effects (cost savings) and leave these potential learning gains to a sensitivity analysis.

3.3 Cost-benefit analysis

We conduct a formal cost-benefit analysis of the provision of subsidies to private SHS.

According to the government's website and available public documents there is an estimated 140,000 to 180,000 children per year who must be housed in new schools to end the double track system (Ministry of Education, 2020). There is no good estimate of the ability of private schools to absorb this excess. One report suggests the private sector could absorb 180,000 students across 300 private schools, but we could not find additional sources to corroborate this (IMANI, 2018) and we are unsure of the spatial distribution of these places or if this figure is

meant for a cohort or all three years. As a plausible estimate, we postulate that the private schools could absorb 30,000 pupils per year under the intervention or 90,000 for all of senior high school. This is a prospective cost-benefit analysis for the provision of public subsidies to 30,000 children per year in private schools over fifteen years.

Costs

The major primary cost of subsidising private SHS is the amount of subsidies. Assuming that there are 30,000 pupils entering private SHS in the first year and they will all receive subsidies. Also, we assume that the fees for a day SHS pupil for the year of entry is GH¢ 650 (Ministry of Education, 2018). The cost of the subsidy would be totally absorbed by the government. For simplicity we do not account for population growth, though we note that this would not materially change the BCRs. We also take the three-year cycle of SHS into account, providing for the doubling and tripling of enrolment in the second and third years respectively and then onwards. The total annual cost of the subsidy is GH¢ 58.5m from year three onwards.

We also include a nominal 3m cedi upfront negotiation cost to engage the private schools and set the terms of the subsidy, plus an ongoing cost of GHc 500,000 of administering the program per year. Over 15 years, the overall cost of this intervention is, therefore, GHc 829m undiscounted. At 8% discount rate, the cost of the intervention is GHc 491m.

Benefits

The main benefit from this intervention is the avoided costs of schooling for the government. This consists of the upfront infrastructure costs plus the ongoing operations costs. We assume that a typical government school can hold 600 students per year, or 1800 students in total. Based on 90,000 students absorbed by the private sector in steady state, this implies an avoided cost of 50 schools. The cost of building a new school at this capacity is estimated at around GHc 5m. This is based on a World Bank project in Ghana which at the time of writing had nearly completed the creation of 30,000 SHS seats for USD $156m (2015 figures, see World Bank (2020)). This implies a cost per seat of USD $520 and therefore, for a school with 1800 seats, we assess GHc 5m as a reasonable estimate. Additionally, at the time of the project launch, the then Deputy Minister of Education was quoted as saying that each school would cost GHc 5m to 6.5m to build (Peace FM, 2014). Based on these figures, the upfront savings of not building 50 schools is equal to GHc 250m.

Additionally, the intervention saves the government in operating these schools. We assume that this equals GHc 650 per student which is equivalent to school fees in public schools before the

free-SHS policy. Note that this essentially equals the cost of the subsidy so another way to think of this is a transfer from the public sector to parents, eventually to private schools. This benefit is equal to GHc 819m undiscounted over 15 years.

3.4 Summary and discussion

The results of the cost-benefit analysis are summarized in Table 1 below. The results indicate that at an 8% discount rate the BCR is 1.5. For 15 years of subsidies pupils in private SHS, the total benefits equal GH¢ 734m with 34% of the benefits from savings on the cost of building new schools. The total costs would be GH¢ 491m, mostly representing the direct costs of subsidies.

Table 1: Summary of costs and benefits

	5%	8%	14%
Avoided school infrastructure (2018 GHc millions)	250	250	250
Avoided operations costs (2018 GHc millions)	580	484	353
TOTAL BENEFITS (2018 GHS millions)	**830**	**734**	**604**
Negotiation and administration	8	7	6
Direct Costs of Subsidies	580	484	353
TOTAL COST (2018 GHS millions)	**588**	**491**	**360**
BCR	**1.4**	**1.5**	**1.7**

The choice of discount rate marginally affects the BCR. We rate the quality of evidence for this as strong since it is based on well-supported data and the model logic, while simple is compelling (i.e. shifting students to the private sector is highly likely to avoid costs for the government).

3.5 Sensitivity Analysis

The discussion in Section 3.2 demonstrates that there is potentially a benefit to students in private schools which receive subsidies. Here we adopt the findings of the Ugandan case since it most closely resembles the policy landscape as Ghana. The analysis from Uganda indicates that in schools that receive subsidies students improved test scores by 0.07-0.16 standard deviations. We adopt a mid-point figure of 0.12 standard deviations. The benefit is applied to just the subsidized students, and not to all students since in our intervention set up only marginal students receive the subsidy.

To monetize the learning impact we assume that a 1 s.d. in test scores leads to an 18% boost to future wages (see Wong, Turkson and Twumasi-Baffour, 2020 for a fuller description of this effect). Applying this parameter would lead to a boost in wages of 2% from the subsidy. Applied to the baseline wage levels this implies a per person benefit of roughly GHc 3100 over the lifetime at an 8% discount rate. We apply this per person benefit to fifteen cohorts of 30,000 SHS graduates. The total benefit of this is GHC 861m at an 8% discount rate. A summary of the BCRs with the additional benefit is depicted below.

Table 2: Summary of costs and benefits – Sensitivity Analysis

	5%	8%	14%
Avoided school infrastructure (2018 GHc millions)	250	250	250
Avoided operations costs (2018 GHc millions)	580	484	353
Learning benefits (2018 GHc millions)	1,983	861	246
TOTAL BENEFITS (2018 GHS millions)	**2,813**	**1,595**	**849**
Negotiation and administration	8	7	6
Direct Costs of Subsidies	580	484	353
TOTAL COST (2018 GHS millions)	**588**	**491**	**360**
BCR	**4.8**	**3.2**	**2.4**

The results indicate that with the learning benefit the BCRs would more than double. However, they would still not be larger than alternative education investments such as school feeding and teaching at the right level.

4. Conclusion

Although the double-track system has helped to manage the upsurge of enrolment in secondary schools due to Ghana's free SHS policy, there are numerous challenges with the system. The government has committed to ending the double track, but at significant cost of building billions of cedis worth of new schools. This study evaluates an intervention that would address the real or perceived challenges associated with the double-track system, while saving on costs.

The provision of subsidy to children to attend private schools where the subsidy covers the non-boarding school fees and all other variable costs. We evaluate these subsidies being provided for 30,000 pupils per year of SHS. We assume an amount of GHc 650. This would cost GHc 58.5m per year in the long run, and with some administration ocsts equal GHc 491m

over 15 years. The intervention would ameliorate the need to build 50 schools and save the government GHc 250m in infrastructure investment. It would also lead to operational savings worth GHc 484m over 15 years. Overall, the BCR of the intervention is 1.5. Sensitivity analyses suggest that additional learning benefits might increase the BCR to 3.4.

The main recommendation is that providing subsidies to pupils to attend private SHS along with building some new public schools appears to be a better investment than the alternative of building new schools alone. The savings are substantial and real, equal to GHc 250m in avoided infrastructure costs. However, compared to other potential investments in education and elsewhere, this intervention has a relatively low BCR. For example, school feeding and teaching at the right level at basic school have higher BCRs, between 5 and 8 (Wong, Turkson and Twumasi-Baffour, 2020).

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